

REMARKS

Applicant has carefully studied the Office Action of May 16, 2005 and offers the following remarks to accompany the above amendments.

Claim 6 was objected to for failing to further limit the claim. Applicant herein cancels claim 6, thereby mooted the objection. Claim 7 is amended to depend from claim 1 in light of the cancellation of claim 6. No new matter is added.

Claim 11 was objected to for failing to further limit the claim. Applicant respectfully traverses. The Patent Office opines that claim 11 does not further limit claim 10 because claim 11's winding ratios of $1:1:\alpha$ is the same as claim 9's winding ratios of $1:1:\alpha$. This statement ignores the dependency chain of the claims. Claims 9 and 10 both depend from claim 1, not from one another. Thus, claim 10 is not limited to a winding ratio of $1:1:\alpha$. Thus, claim 11 further limits claim 10 by imposing the winding ratio on the first transformer. The scope of claim 11 differs from the scope of claim 9 by virtue of claim 11's dependency on claim 10, which imposes a winding ratio limitation on the second transformer. The claims have different scopes, and applicant requests withdrawal of the objection to claim 11 at this time.

Claim 12 was rejected under 35 U.S.C. § 112 as being indefinite. Specifically, the Patent Office alleges that the statement that α be between "approximately 2 and 3" is not exact. Applicant notes that precision is not specifically required for definiteness. "Some latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the examiner might desire." MPEP § 2173.02. Applicant further notes that words such as approximately are used frequently and determined to be definite. For example, the use of "about", "essentially", and "substantially" have all been found to be definite so long as it is clear what was intended. MPEP § 2173.05(b). Likewise, the recitation of a numerical range in a claim does not raise an issue of whether the claim is definite. MPEP § 2173.05(c). Thus, Applicant respectfully maintains that the claim language is sufficiently definite such that someone of ordinary skill in the art would understand the scope of the claim. This level of definiteness satisfies the requirements of 35 U.S.C. § 112. Applicant requests withdrawal of the § 112 rejection of claim 12 at this time.

Claims 1-4, 7, 8, 13, 14, 16, 18, 22-24, 26, and 27 were rejected under 35 U.S.C. § 103 as being unpatentable over Gardner et al. (hereinafter "Gardner") in view of Rhodes. Applicant respectfully traverses. For the Patent Office to establish *prima facie* obviousness, the Patent

Office must show where each and every claim element is located. MPEP § 2143.03. If the Patent Office has to modify a reference to show a claim element, the Patent Office must do two things. First, the Patent Office must articulate a motivation to modify the reference, and second, the Patent Office must support the articulated motivation with actual evidence. *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000). Further, for the Patent Office to combine references, the Patent Office must likewise do two things. First, the Patent Office must articulate a motivation to combine the references, and second, the Patent Office must support the articulated motivation with actual evidence. *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999).

In the present application, the Patent Office has extracted disparate portions of Gardner and reassembled these unrelated portions using the benefit of impermissible hindsight reconstruction. The Patent Office makes these modifications without showing any motivation to make the modification, nor has the Patent Office set forth any evidence to support the modification.

Specifically, claim 1 recites a first transformer having first, second, and third coils. The Patent Office identifies element 70 of Figure 11 of Gardner as the first transformer and then states that the first coil is element 74 of Gardner. Likewise, the Patent Office identifies coil 72 of Gardner as the second coil. However, the Patent then states that left hand side windings of 81A of Gardner are the third coil. Applicant respectfully traverses this statement. Element 81A of Gardner is a separate transformer that is not part of Gardner's transformer 70. The Patent Office is impermissibly extracting the windings of 81A and inserting them into the transformer 70. The Patent Office has not properly justified the modification to the transformer 70 or the transformer 81A.

The Patent Office compounds its error by stating that the second transformer corresponds to element 80 of Gardner. In connection with this identification, the Patent Office states that the left most windings of elements 70B and 81B of Gardner correspond to the fourth and fifth coils of the claim. This statement represents impermissible extraction and juxtaposition of the elements of Gardner. Specifically, element 80 is in sensor node #1 of Gardner. In contrast, elements 70B and 81B of Gardner are in sensor node N of Gardner and are, in fact, two more transformers. The Patent Office is taking windings out of two different transformers in a separate modern and placing them in the first modern. The Patent Office has not explained why

this extraction and juxtaposition is proper. Absent a proper motivation and the requisite evidence, this modification to Gardner is not proper.

Applicant respectfully maintains that the implicit modifications to Gardner make Gardner unsuitable for its intended purpose. Specifically, by removing the windings from 70B and 81B, the Patent Office makes sensor node N inoperable. This inoperability is evidence that the modification to Gardner is non-obvious. Furthermore, the Patent Office's modifications leave the windings 72 and the right most windings of element 81A inoperative. This inoperability is further evidence that the modifications are improper.

Absent modification, transformer 70 does not operate in any sort of receive capacity. Since transformer 70 does not operate in any sort of receive capacity, transformer 70 cannot have a third coil connected to a receive port. Since transformer 70 is not connected to a receive port, Gardner does not show the elements for which it is cited. Since Gardner does not show the elements for which it is cited, and the Patent Office has not identified where the deficiency of Gardner is cured in Rhodes, the combination of Gardner and Rhodes does not teach or suggest all the claim elements. Since the combination does not teach or suggest all the claim elements, the combination does not establish obviousness.

Even if Gardner may be modified to show the elements for which it is cited (a proposition Applicant does not concede), the combination does not show active impedances. Specifically, the Patent Office admits that Gardner does not teach or suggest this claim element and relies on Rhodes for the teaching. Specifically, the Patent Office relies on Rhodes, col. 5, lines 44-68. Rhodes, col. 5, lines 44-68 states in full:

The principle of the present invention is implemented by a transformer coupler design which will maintain the ratio of voltage-to-current in the electrical signals that enter the coupler. The coupler of the present invention, as mentioned above, is designed so that the series impedance attenuates voltage by the same ratio as the shunt admittance attenuates the current. The ratio of the voltage leaving the coupler will be less than the voltage entering the coupler which will determine the loss through the coupler. Therefore, the system of FIG. 8 includes the four series resistors RS1A, RS2A, RS1B and RS2B which are in series with the transmission lines. Collectively, these series resistors are intended to provide the impedance which attenuates the coupler voltage by the same ratio that the shunt admittance of the coupler attenuates the current.

The transformer bus coupler, as described above, has comparatively lower insertion loss characteristics compared to prior art coupler systems. Insertion loss may be defined as signal-power loss resulting from connecting communication equipment with dissimilar impedance values. Since the present invention is

designed to avoid impedance discontinuities between the coupler and the transmission lines, the present invention also minimized insertion losses.

Applicant has carefully studied the passage, and while the passage does indicate that there are impedances and that impedance mismatches cause losses, there is no teaching or suggestion that the impedances are active impedances as recited in claim 1. Thus, the references individually do not teach or suggest the claim element. Since the references individually do not teach or suggest the claim element, the combination of references cannot teach or suggest the claim element. Since the combination of references does not teach or suggest the claim element, the combination does not establish obviousness for claim 1. Claims 2-4, 7, and 8 depend from claim 1 and are allowable at least for the same reasons.

Claim 13 recites coupling the signal from the transmit path to the receive path. The Patent Office provides no analysis for where this claim element is found in the combination of references. To the extent that the Patent Office explicitly relies on its analysis of claim 1, Applicant has already addressed the deficiencies of that analysis. In the absence of the combination of references teaching or suggesting this claim element, the combination does not establish obviousness. Claim 13 also recites the active impedances. Applicant has addressed this above as well. Claim 13 is allowable for this reason as well. Claims 14, 16, and 18 depend from allowable claim 13 and are allowable for at least the same reasons.

Claim 22 recites two transformers with the third and fifth coil coupled to form a receive port. The Patent Office relies on its analysis of claim 1 without specifically addressing this element. As explained above, the Patent Office's analysis regarding claim 1 represents an improper modification to the reference. Since the Patent Office's analysis is improper, Gardner does not show the elements for which it is cited, and Rhodes does not cure these deficiencies. Thus, the combination cannot teach or suggest the claim elements and cannot establish obviousness. Claims 23, 24, 26, and 27 depend from claim 22 and are allowable at least for the same reasons.

Claims 5, 15, and 17 were rejected under 35 U.S.C. § 103 as being unpatentable over Gardner in view of allegedly well known transformer equations. Applicant respectfully traverses. The standards for establishing obviousness are set forth above.

Applicant initially traverses the rejection because claim 5 depends from claim 1, and claims 15 and 17 depend from claim 13. The Patent Office required Gardner and Rhodes to

reject claims 1 and 13. The Patent Office admits that Gardner alone does not show the active impedances of claims 1 and 13; thus, the Patent Office effectively admits that the combination of Gardner and allegedly well known transformer equations does not show a claim element. Since the combination does not show a claim element, the combination does not establish obviousness.

Applicant further traverses the rejection because the Patent Office has impermissibly modified Gardner as explained above.

Applicant further traverses the combination of Gardner with the allegedly known transformer equations. Specifically, the Patent Office has not properly supported the motivation to combine Gardner with the allegedly well known transformer equations. The Patent Office asserts that the motivation is "to increase the voltage level at the receiver side so as to enhance the detection capability of the receiver." (Office Action of May 16, 2005, page 6, lines 5-6). This asserted motivation lacks the evidence required by the Federal Circuit. Since the motivation lacks the requisite evidence, the motivation to combine is improper. Since the motivation to combine is improper, the combination is improper. Since the combination is improper, the rejection based on the combination is improper. Applicant requests withdrawal of the § 103 rejection of claims 5, 15, and 17 on this basis as well.

Claims 9, 10, 19-21, and 25 were rejected under 35 U.S.C. § 103 as being unpatentable over Gardner in view of Beurrier. Applicant respectfully traverses. The standards for establishing obviousness are set forth above.

Applicant initially traverses the rejection because claims 9 and 10 depend from claim 1 and claim 25 depends from claim 22. The Patent Office required Gardner and Rhodes to reject claims 1 and 22. The Patent Office admits that Gardner alone does not show the active impedances of claims 1 and 22; thus, the Patent Office effectively admits that the combination of Gardner and Beurrier does not show a claim element. Since the combination does not show a claim element, the combination does not establish obviousness.

Applicant further traverses the rejection because the Patent Office continues to rely on its impermissible modifications to Gardner. As explained above, the modifications are improper. Since the modifications are improper, and the reference without modification does not show the elements for which it is cited, the combination does not teach or suggest the claim elements of claims 1 or 22. Thus, claims 9, 10, and 25 are allowable for this reason as well.

Claim 19 recites a transformer with first, second, and third coils with the third coil positioned in a receive path of the modem. The Patent Office continues to extract and modify portions of Gardner without explaining the justification for the modifications. Specifically, the Patent Office still identifies the left most windings of transformer 81A as the third coil. As previously explained, those windings are not in the transformer 70 and this modification to Gardner results in an inoperative device. As such, the modification is non-obvious. Applicant requests withdrawal of the § 103 rejection of claims 19-21 at this time.

Applicant requests reconsideration of the rejections in light of the amendments and remarks presented herein. Applicant earnestly solicits claim allowance at the Examiner's earliest convenience.

Respectfully submitted,

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